

Flying 248 Miles An Hour

By LIEUT. RUSSELL L. MAUGHAN.

The Army pilot who won the Pulitzer Trophy at Mount Clemens and established a new world's speed record of 248.5 miles an hour in a test flight after the race.

Special Correspondence.

SAN FRANCISCO, Cal., Oct. 30.—To pilot an airplane in the Pulitzer airplane race is an honor coveted by all aviators, for the Pulitzer race is the Classic of all American speed contests and it is one of the greatest honors that a pilot can receive to be allowed to fly in this event. Imagine my surprise while flying forest fire patrol out of Eugene, Oregon, to receive orders sending me to Garden City, New York, as a participant in the race. I was to pilot one of the special army airplanes being built by the Curtiss Airplane and Motor Corporation. As the first surprise wore off I began to wonder how I would fare with such experienced pilots as I knew would be participating. There was C. C. Mosely, winner of the 1920 race, who was an experimental test pilot at McCook Field, and who had daily experience in flying new and extremely fast planes;

and cooperation displayed were one of the outstanding features. I had watched Lieutenant Maitland fly a sister ship to mine and I was shortly to know why, when asked how it went, he scratched his head and replied, "All right, I—I—I guess." At last my plane was ready for its maiden flight. It was taken to Mitchell Field, pushed onto the starting line and I climbed in. I opened the throttle, took off and stayed up fifteen minutes, but to say that I flew the ship during this time would be a gross exaggeration, for some of the things that happened I grasped at the time and others not until after I landed: My safety belt was loose and I was thrown against it many times, in fact had it not been for the belt I would have been completely thrown from the ship. Bear in mind that all during this test I was doing my best to hold the ship

right when I could see again, but it is the thought of what might happen that frightens. Turns in a race are made within fifty feet of the ground and as the plane travels over 300 feet a second and the blind spell last three to four seconds—well—one thinks of eternity.

Record Races Close to Ground.

In flying in a race or for record you always fly very close to the ground as there are many points to be gained by doing so. A wind that is 15 M. P. H., at the ground is usually twenty to thirty M. P. H., at 500 feet, so if the wind is against your line of flight or across it, it pays to get down as close to the earth as possible so as to encounter the minimum wind resistance. The speed of the plane is the same through the air in either case but it is readily seen that as the distance to be covered is measured on the ground the least wind resistance you have to overcome the faster your time will be. Then too the closer the airplane is to the earth the greater the banking effect

at one hundred pounds, your oil and water temperature must be between 70 and 90 degrees to insure proper functioning and your gas must be kept at exactly the right mixture to insure the greatest power from the motor. Imagine, if you can, traveling but ten feet from the ground at well over two hundred miles an hour and trying to coax an extra ten horsepower from your already overtaxed motor. Each change you make necessitates another look into your cockpit to see whether you have increased or decreased the revolutions of your propeller with its corresponding change on the dial of your air speed indicator.

Landscape Was a Blur.

To describe all my sensations while traveling at this speed and at the record speed I later made is impossible, as the terrific wind that eddied and whipped around me and the streaking of every object were such a contrast to ordinary flying. The landscape? There is no immediate landscape, or if there is it can only be described by calling it a blur.



U. S. A. Pilot Maughan and the plane which made a new record.

and Bert Acosta, a special test pilot for the navy and for several civilian airplane factories and who carried off the honor in 1921. There were also many others as experienced if not as well known. I had done nothing in this line, had not even seen a race in which planes made over 130 M. P. H., and had certainly not participated in one. The whole trip to New York was filled with elation at the possibility of winning the race with despondency at the great odds against me.

The five weeks spent getting the plane ready for its first flight were filled with the same thoughts in different forms. Doubts were uppermost; could the machine possibly be finished in time; would the motor stand the terrific strain of 2,400 R. P. M.; would it be fast enough and then could I control it at the unknown speed; if I could control it did I have the endurance to last through the race? On the other hand it was the most wonderful machine I had ever seen, perfect in every detail with speed showing in every line. Why shouldn't I win?

Wanted a Suit of Armor.

The importance of the first test flight was weighing on me, knowing as I did that if I broke anything my chances were gone. I had been instructed by both fliers and non-fliers as to the best method of taking off, flying and landing it and the advice I received would easily have filled the Encyclopedia Britannica. The assistance of my fellow pilots, however, I found to be invaluable, and the sportsmanship

in level flight and was not doing over one hundred and eighty M. P. H. When I came down the thought most prominent in mind was that I wished I had a suit of armor like the knights used in the Middle Ages. I could bolt this armor to the seat, crawl inside and at least be sure that I could not be bruised by the straps, the seat and both sides of the plane, or have my head snapped back against the head rest every time I opened the throttle. I rejoiced in landing safely but then it dawned upon me that I had accomplished little else.

The maximum speed of the plane was still unknown, and at that time I was physically unable to stand more than fifteen minutes of what speed I had already made. The next day things went better and I was at least master of the plane part of the time. It was not until the fourth trip that I can truthfully say that I was sure of how she would answer to the controls. On this trip she was taken over the speed course and clocked at 220 M. P. H. I flew her twice again before the race—these times at Selfridge Field—but have no record of speed. It was during these trial tests that I had my first sensation of going blind on the turn. In making a sharp turn the blood would be suddenly thrown from my head by the suddenness and violence of the turn and for a few seconds I could not see anything. Instinctively I brought the machine level, throttled the motor and found everything going all

of the air between the airplane wings and the ground.

It is estimated that as great as 10 per cent. can be added to the speed of the plane if you are within ten feet of the ground, so the logical thing to do is to fly as low as possible without actually hitting. I flew the Pulitzer race at approximately ten feet. On the other hand the lower you get the greater the danger of hitting and crashing and you have but to close your eyes to imagine the result of hitting anything when traveling at this tremendous speed. To add to the danger the plane will not fly level. If you could control the plane at this speed all would be well and there would be no danger, but the controls must be so sensitive in order to control the ship and whip it about the turns at high speed that when traveling along horizontally it is impossible to eliminate the slight up and down movement or "weaving." This is so marked that it can be readily noticed from a half mile away, and while ten feet makes no difference if you are two thousand feet high it literally makes "a world's difference" when you are but ten feet high.

Then, too, all your time cannot be given to maneuvering the ship. In driving your automobile you must occasionally glance at your dashboard to look at your instruments, and in the plane you have almost the same instruments as well as a few extra ones. Your air pressure must be kept at three pounds, your oil pressure

When in your automobile you look at the road from one hundred to two hundred feet in advance if you are traveling slowly and twice as far ahead if you double your speed. Traveling at speeds above two hundred miles an hour you use the horizon as the means of judging your altitude and only occasionally do you look at the ground or trees to check and see that you do not get too close. Keeping the correct altitude is done more with your subconscious mind than with your active mind. With the latter you are busy keeping the proper direction and taking note of the obstacles that are looming in your path. If you are to pass over a bunch of trees or a barn you unconsciously climb to go over them and only in the moment of passing over do you glance down to check your clearance. If all the objects you passed over were approximately the same height it would be easy, but flag poles and tall dry limbs of trees have a habit of showing up at unexpected moments and are extremely hard to see from a distance. It is for the unexpected things that one must continually be on the lookout.

Then, too, if you could see directly in front it would be much easier, but because you are seated in your cockpit with a motor and windshield in front of you you must get your direction by looking far to the side and as nearly as possible to the front. Only by turning your plane slightly to the side is it possible to see

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